

WHAT WE CLAIM ARE:

1. An electronic device comprising:
  - a  $\text{ReO}_3$  layer having a (001) orientation; and
  - an oxide ferroelectric layer having a perovskite structure, said oxide
  - 5 ferroelectric layer being formed on said  $\text{ReO}_3$  layer and having a (001) orientation.
2. The electronic device according to claim 1, further comprising: a  $\text{MgO}$  layer having a (001) orientation, wherein said  $\text{ReO}_3$  layer is formed on said  $\text{MgO}$  layer.
3. The electronic device according to claim 2, further comprising: an amorphous
- 10 layer, wherein said  $\text{MgO}$  layer is formed on said amorphous layer.
4. The electronic device according to claim 3, further comprising: an upper electrode formed on said oxide ferroelectric layer.
5. The electronic device according to claim 4,
  - wherein said amorphous layer is formed of an insulating layer, which is
  - 15 formed to cover a semiconductor element formed on a semiconductor substrate, and
  - a conductive plug is provided to electrically connect said semiconductor element, said conductive plug penetrating through said insulating layer.
6. The electronic device according to claim 5, wherein said  $\text{ReO}_3$  layer is
- 20 formed on said insulating layer and over said conductive plug.
7. The electronic device according to claim 5, further comprising:
  - an interlayer insulating layer covering said upper electrode;
  - a plurality of apertures penetrating through said interlayer insulating layer and exposing said conductive plug and said upper electrode; and
  - 25 a local wiring connecting said conductive plug and said upper electrode via said apertures.

8. The electronic device according to claim 2, wherein said MgO layer is a single crystal MgO layer having a (001) plane.
9. The electronic device according to claim 1, wherein said  $\text{ReO}_3$  layer is added with metal other than Re.
- 5 10. The electronic device according to claim 4, wherein said upper electrode is formed of an  $\text{IrO}_2$  layer, or a stack of an  $\text{IrO}_2$  layer and a  $\text{SrRuO}_3$  layer.
11. A method of manufacturing an electronic device, comprising the steps of:
- (a) preparing a  $\text{ReO}_3$  layer having a (001) orientation; and
  - (b) forming an oxide ferroelectric layer having a perovskite structure and
- 10 a (001) orientation, on said  $\text{ReO}_3$  layer.
12. The method of manufacturing an electronic device according to claim 11, wherein said step(a) deposits said  $\text{ReO}_3$  layer on a single crystal MgO layer having the (001) orientation.
13. The method of manufacturing an electronic device according to claim 11,
- 15 wherein said step (a) includes the steps of:
- (a-1) preparing a MgO layer having a (001) orientation; and
  - (a-2) forming said  $\text{ReO}_3$  layer having a (001) orientation on said MgO layer.
14. The method of manufacturing an electronic device according to claim 13,
- 20 wherein said step (a-1) includes the steps of:
- (a-1-1) preparing an amorphous layer; and
  - (a-1-2) forming said MgO layer having a (001) orientation on said amorphous layer.
15. The method of manufacturing an electronic device according to claim 14,
- 25 wherein at least one of said steps (a-1-2), (a-2) and (b) is done by metalorganic chemical vapor deposition (MOCVD).

16. The method of manufacturing an electronic device according to claim 15, wherein all of said steps (a-1-2), (a-2) and (b) are done by MOCVD.
17. The method of manufacturing an electronic device according to claim 15, wherein said MOCVD is executed at a substrate temperature of 620°C or lower.
- 5 18. The method of manufacturing an electronic device according to claim 15, wherein said MOCVD uses, as organometal raw material, a dipivaloilmethanate (DPM) compound of metal or an iso-proxy (i-PrO) compound of metal.
19. The method of manufacturing an electronic device according to claim 14, wherein at least one of said steps (a-1-2), (a-2) and (b) is done by sputtering.
- 10 20. The method of manufacturing an electronic device according to claim 11, further comprising the step of: (c) forming at least one upper electrode layer on said oxide ferroelectric layer.